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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,238	11/02/2001	Fu-Hwa Wang	P6165	2787

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EXAMINER

RAMPURIA, SATISH

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 09/10/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/002,238

Applicant(s)

WANG, FU-HWA

Examiner

Satish S. Rampuria

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

1. This action is in response to the application filed on 11/02/2001.
2. Claims 1-40 are pending.

***Claim Rejections - 35 USC § 112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6, 13, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding, claims 6, 13, and 20, the abbreviated, "ELF" is unclear as to what it stands for, the full form of abbreviated is required.

Clarification and/or correction are required.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 8, and 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are non-statutory because they recite components of generating a binary file, representing functional descriptive material without a computer readable medium or computer

implemented, program per se are not tangibly embodied. Claims 1-20 thus amounts to only abstract idea and are nonstatutory.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,625,807 to Chen (hereinafter called Chen).

**Per claims 1, 8, and 16:**

Chen disclose:

- A method of producing a binary code file (col. 6, lines 40-41 "The original binary program code... generated by the system compiler") comprising:
- compiling a plurality of source code instructions (col. 6, lines 25-26 "The original source code... is input into the system compiler"); and
- outputting a plurality of binary code instructions (col. 5, lines 47-49 "transforms the code into equivalent machine code in a form of a relocatable... or directly executable object

code”) and compiler annotation (col. 6, lines 34-38 “The register usage annotator 70 generates bit vector annotation... of the system compiler 60”).

**Per claims 2, 9, and 17:**

Chen disclose:

- wherein the compiler annotation enables binary translation to be performed on the plurality of binary code instructions using a non-heuristic approach (col. 6, lines 17-18 “The translation process... then translates the code into the translated binary objects code”).

**Per claims 3, 10, and 18:**

Chen disclose:

- wherein the compiler annotation describes functional characteristics of the plurality of binary code instructions (col. 6, lines 54-58 “the parser processes the sequence of tokens and produces an intermediate level representation, such as a parse tree or sequential intermediate code, and symbol table that records the identifiers used in the program and/or attributes”).

**Per claims 5, 12, and 20:**

Chen disclose:

- examining the plurality of source code instructions (col. 6, lines 25-26 “The original source code... is input into the system compiler”);
- reorganizing one or more of the plurality of source code instructions (col. 5, lines 13-18 “The analyzer... checking a program for validity... process takes... intermediate code

generated in the parsing... symbol table... determines whether or not the program satisfies the properties required by the source language”);

- translating the plurality of source code instructions into the plurality of binary code instructions (col. 5, lines 47-49 “transforms the code into equivalent machine code in a form of a relocatable... or directly executable object code”);
- reorganizing one or more of the plurality of binary code instructions (col. 6, lines 4-5 “Once the program... compiled... linked to interconnected the parts of the program... needed library routines”); and
- tracking and recording functional characteristics of the plurality of source code instructions and of the plurality of binary code instructions (col. 6, lines 7-8 “The program... routines are read and then relocated by a loader to produce a machine-executable image in memory”).

**Claims 21-23** is the apparatus claim corresponding to method claims 1, 2, and 3 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1, 2, and 3 respectively, above.

**Claim 26** is the apparatus claim corresponding to method claim 5 and rejected under the same rational set forth in connection with the rejection of claim 5 above.

**Claims 27, 28, and 30** is the apparatus claim corresponding to method claims 2, 3, and 5 respectively, and rejected under the same rational set forth in connection with the rejection of claims 2, 3, and 5 respectively, above.

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*Claim 28* is the apparatus claim corresponding to method claim 3 and rejected under the same rational set forth in connection with the rejection of claim 3 above.

*Claim 30* is the apparatus claim corresponding to method claim 5 and rejected under the same rational set forth in connection with the rejection of claim 5 above.

*Claim 31--35* are the computer product claim corresponding to method claims 1-5 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1-5 respectively, above.

*Claim 36-40* are the computer product claim corresponding to method claims 1-5 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1-5 respectively, above.

Substantially as claimed.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of US Patent No. 6,353,925 to Stata et al. (hereinafter called Stata).

**Per claims 4, 7, 11, 14, 15, and 19:**

Chen does not explicitly disclose the compiler annotation comprises one or more records selected from a module identification (ID), a function ID, a split function ID, a jump table ID, a function pointer initialization ID, a function address assignment ID, an offset expression ID, a data in the text section ID, a volatile load ID, and an untouchable region ID.

However, Stata discloses in an analogous computer system the compiler annotation comprises one or more records selected from a module identification (ID), a function ID, a split function ID, a jump table ID, a function pointer initialization ID, a function address assignment ID, an offset expression ID, a data in the text section ID, a volatile load ID, and an untouchable region ID (col. 6, lines 40-42 “Each tool... have a set of annotations... recognizes and support... annotations are placed in the source file along with the programming-language statements” and (col. 6, lines 64-66 “the annotation language... say any comment whose first character is the character “@” is an annotation”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of selecting or having annotations within the code as taught by Stata into the method of generating the binary code files as taught by Chen. The modification would be obvious because of one of ordinary skill in the art would be motivated to use annotations within the code to provide less modification of the code if one need to transfer from one system to another as suggested by Stata (col. 1 and 2, lines 64-67 and 1-6).

**Claim 24** is the apparatus claim corresponding to method claim 4 and rejected under the same rational set forth in connection with the rejection of claim 4 above.



**Claim 29** is the apparatus claim corresponding to method claim 4 and rejected under the same rational set forth in connection with the rejection of claim 4 above.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of admitted prior art.

**Per claims 6 and 13:**

Chen does not explicitly disclose the plurality of binary code instructions is an ELF format binary code file and the compiler annotation is an ELF section.

However, Admitted prior art discloses in an analogous computer system the plurality of binary code instructions is an ELF format binary code file and the compiler annotation is an ELF section (Applicant's specification, page 9, lines 14-16 "FIG. 3C, prior art, illustrates the file format of an Executable and Linking Format (ELF) executable binary file 320. Executable binary file 320 contains an ELF header 322, a program header table 324, one or more sections 326(1)-(N) and a section header table 328").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of plurality of binary code instructions is an ELF format binary code file and the compiler annotation is an ELF section as taught in admitted prior art into the method of generating binary code file as taught by Chen. The modification would be obvious because of one of ordinary skill in the art would be motivated use the ELF format file to provide the support for more than one file sections as supported by binary file.

*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **703-305-8891**.

The examiner can normally be reached on **8:30 am to 5:00 pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kakali Chaki** can be reached on **(703) 305-9662**. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria  
Patent Examiner  
Art Unit 2124  
09/07/2004

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